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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/540,028

06/22/2005

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Q73675

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23373 7590 10/02/2009
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EXAMINER

MULCAHY, PETER D

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

10/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/540,028	Applicant(s) KADOWAKI ET AL.	
	Examiner Peter D. Mulcahy	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,8-18,21-23,26,27 and 29-33 is/are pending in the application.
- 4a) Of the above claim(s) 1,8-15,26 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 16-18,21-23 and 29-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 16-18, 21-23 and 29-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goto et al. US 5,304,326.

4. Claims as amended are directed to a hydrothermally resistant electroconductive cured product which has a Tg of 160°C or more, and a bending strength of 30 MPa or more in accordance with JIS K 6911, by curing a curable composition comprising: (A) a hydrocarbon compound having a plurality of carbon-carbon double bonds, (B) an electroconductive carbonaceous material selected from the group consisting of, or a combination of at least two kinds of: natural graphite, artificial graphite, expanded graphite, carbon fiber, vapor-phase grown carbon fiber, and carbon nanotube, and (C) at least one curing initiator selected from the group consisting of organic peroxides and

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azo compounds, wherein the hydrocarbon compound (A) having a plurality of carbon-carbon double bonds is a polymer wherein the ratio of a monomer unit having a side-chain containing a carbon-carbon double bond and saturated main chain is 60 mole % or more, based on the total number of monomer units constituting the polymer, and wherein the hydrocarbon compound (A) having a plurality of carbon-carbon double bonds is at least one kind selected from the group consisting of 1,2-polybutadiene and 3,4-polyisoprene.

5. The cited patent to Goto et al. teaches a hydrothermally resistant electroconductive composition that can be cured to form products, see column 4, lines 28-36. The product is presumed to have a T_g of 160°C or more, and a bending strength of 30 MPa or more in accordance with JIS K 6911, given the same polymer is formed from the same compositional ingredients in the same amounts. The article can be formed by curing a curable composition comprising: (A) a hydrocarbon compound having a plurality of carbon-carbon double bonds, column 3 lines 50-60. The claimed electroconductive carbonaceous material selected from the group consisting of, or a combination of at least two kinds of: natural graphite, artificial graphite, expanded graphite, carbon fiber, vapor-phase grown carbon fiber, and carbon nanotube, is discussed at column 2 lines 1+. The claimed least one curing initiator selected from the group consisting of organic peroxides and azo compounds is suggested at column 4 lines 32-35. The hydrocarbon compound (A) having a plurality of carbon-carbon double bonds is a polymer wherein the ratio of a monomer unit having a side-chain containing a carbon-carbon double bond and saturated main chain is 60 mole % or more, based on

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the total number of monomer units constituting the polymer, and wherein the hydrocarbon compound (A) having a plurality of carbon-carbon double bonds is at least one kind selected from the group consisting of 1,2-polybutadiene and 3,4-polyisoprene is anticipated by the teaching at column 3 lines 55-60. Here, 1,2-polybutadiene is specifically identified as having a content of 1,2 vinyl bondings of greater than 50%. This is seen to anticipate the limitation "ratio of a monomer unit having a side-chain containing a carbon- carbon double bond and saturated main chain is 60 mole % or more."

6. The difference between the claimed composition and the cited art is that the art does not exemplify the use of a peroxide or azo cure initiator. The claimed initiators are discussed at column 4 lines 33-36. The examples use sulfur compounds in vulcanizing the composition. One of ordinary skill would be motivated to select the peroxide compounds as curing agents given that these are specifically mentioned and one would have a reasonable expectation of success.

7. The dependently claimed methods of molding are discussed at column 4 lines 55-63. The dependently claimed fuel cell article is rendered obvious from the articles as discussed at column 5 lines 4-15. One would be motivated to formulate the articles as claimed given the discussion of the resultant properties of the articles and the understanding that these properties are desirable in electrical parts and fuel cells.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter D. Mulcahy whose telephone number is 571-272-1107. The examiner can normally be reached on Mon.-Fri. 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter D. Mulcahy/
Primary Examiner, Art Unit 1796